

# Annual rings

**annual rings**, the growth layers of wood that are produced each year in the stems and roots of trees and shrubs. In climates with well-marked alternations of seasons (either cold and warm or wet and dry), the wood cells produced when water is easily available and growth is rapid (generally corresponding to the spring or wet season) are often noticeably larger and have thinner walls than those produced later in the season when the supply of water has diminished and growth is slower. There is thus a sharp contrast between the small, thick-walled late-season wood cells produced one year, and the large, thin-walled cells of the spring wood of the following year results. Where the climate is uniform and growth continuous, as in wet, tropical forests, there is usually little or no gross visible contrast between the annual rings, although differences exist. When rings are conspicuous, they may be counted in order to obtain a reasonably accurate approximation of the age of the tree. They are also reflective (by their range of thickness) of the climatic

# Difference between Spring wood and Autumn wood

The activity of the cambium ring is influenced by the climatic changes. Reactivation of the cambium takes place during spring season.

The cambium becomes more active during this season and forms plenty of xylem vessels with wider cavities known as spring wood. It is also known as early wood. In winter, however, the cambial activity slows down and gives rise to narrower xylem elements. The wood thus formed in winter is called autumn wood. It is also known as late wood.

## Spring Wood vs Autumn Wood



<b>Spring Wood</b>	<b>Autumn Wood</b>
It is formed during spring season	It is formed during winter season.
It constitutes the major part of the annual ring.	It constitutes as a narrow strip in the annual ring.
Spring wood is present in the beginning of an annual ring.	Autumn wood is present at the end of an annual ring.
Forms plenty of xylem vessels with wider cavities.	The cavities of xylem vessels are narrower.
Xylem fibers are fewer in number.	Abundant xylem fibres are produced.
Wood is lighter in colour.	Wood is darker in colour.
It has a lower density	It has a higher density
It is also called early wood.	It is also called late wood.